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Jurjen Henri Eisink

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EXAMINER

ELLIOTT IV, BENJAMIN H

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,749	Applicant(s) EISINK, JURJEN HENRI	
	Examiner BENJAMIN ELLIOTT	Art Unit 4144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-22 have been examined and are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 7-8, 12, 13, 16-18, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6,618,757 B1 by Babbitt et al (hereinafter Babbitt).

As per Claim 1, Babbitt discloses **a method for client requested external address mapping, said method comprising the steps of:**
receiving, from a local host, a request for an access to a public network (Col. 3, lines 14-18. Assignment of an external IP address is in response to a subscriber of a private network wanting access to a public network.);
determining a public address to be used for the access to the public network (Col. 3, lines 21-29. The invention utilizes means for determining if the IP address is being used. If the IP address is not being used, then it is assigned.);
mapping a local address, corresponding to the local host, to the public address

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(Col. 3, lines 32-36. A NAT (network address translator) maintains a table that keeps track of public addresses that are currently associated with a particular private address. Figure 7. Block “142” states the NAT is requested to map internal IP address to external IP address.);

and returning the public address to the local host (Col. 3, lines 23-29. Responsive the determining parameters of availability and expiration of time, a public IP address is assigned.).

As per Claim 2, Babbitt discloses **wherein the access requested is from the public network to the local host** (Col. 3, lines 14-18. Assignment of an external IP address is in response to a subscriber of a private network wanting access to a public network.).

As per Claim 3, Babbitt **discloses wherein the access requested is from the local host to the public network** (Col. 3, lines 16-19. A request may also be made to access a private network from a public network.).

As per Claim 7, Babbitt discloses **the method of claim 1, wherein the public network is defined by one or more sets of addresses** (Col. 3, lines 19-21. The external IP address that is to be assigned is selected from a prescribed number of available external IP addresses available to a private IP network.).

As per Claim 8, Babbitt discloses **the method of claim 7, wherein the one or more sets of address are defined by one or more subnet lists** (Col. 10, lines 26-34. As operating in a local area network, if the destination address is an internal IP address (internal to the private network), no address translation or processing takes place. This

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corresponds to the addresses having subnet addresses which are internal to a particular private network.).

As per Claim 12, Babbitt discloses **the method of claim 1, wherein the step of mapping further comprises the steps of determining a local subnet list for the local host and returning the local subnet list to the local host** (Col. 10, lines 26-34. As operating in a local area network, if the destination address is an internal IP address (internal to the private network), no address translation or processing takes place. The address is forwarded to the internal destination address. This corresponds to the addresses having subnet addresses which are internal to a particular private network.).

As per Claim 13, Babbitt discloses **the method of claim 12, wherein the local subnet list defines a local network, thereby distinguishing the local network from the public network** (Col. 10, lines 26-34. As operating in a local area network, if the destination address is an internal IP address (internal to the private network), no address translation or processing takes place. The address is forwarded to the internal destination address. This corresponds to the addresses having subnet addresses which are internal to a particular private network.).

As per Claim 16, Babbitt discloses **a system for client requested external address mapping, comprising:**
a memory (Col. 3, lines 32-36. A NAT (network address translator) maintains a table that keeps track of public addresses that are currently associated with a particular private address. Col. 11, lines 3-6. The NAT stores correspondence between internal IP

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addresses and external IP addresses.); **and at least one processor, coupled to the memory** (Figure 2. The NAT and the DHCP (dynamic host configuration processor) are coupled together to the gateway.), **operative to:**

receive, from a local host, a request for an access to a public network (Col. 3, lines 14-18. Assignment of an external IP address is in response to a subscriber of a private network wanting access to a public network.);

determine a public address to be used for the access to the public network (Col. 3, lines 21-29. The invention utilizes means for determining if the IP address is being used. If the IP address is not being used, then it is assigned.);

map a local address, corresponding to the local host, to the public address (Col. 3, lines 32-36. A NAT (network address translator) maintains a table that keeps track of public addresses that are currently associated with a particular private address. Figure 7. Block "142" states the NAT is requested to map internal IP address to external IP address.);

and return the public address to the local host (Col. 3, lines 23-29. Responsive the determining parameters of availability and expiration of time, a public IP address is assigned.).

As per Claim 17, Babbitt discloses **a method for client requested external address mapping, said method comprising the steps of:**

determining whether an outbound access is to a local network or a public network (Col. 3, lines 4-21. The DHCP is programmed with an IP address management

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process that functions to assign external IP addresses in response to a request to access a public network from a private network and vice-versa.);

and when the outbound access is to a public network, performing the steps of:

requesting an access to the public network (Col. 3, lines 14-18. Assignment of an external IP address is in response to a subscriber of a private network wanting access to a public network.);

receiving public information in response to the request (Col. 3, lines 23-29.

Responsive the determining parameters of availability and expiration of time, a public IP address is assigned.);

and placing the public information in one or more payload portions of one or

more packets created for the outbound access (Col. 10, lines 10-12. Each IP packet carries source and destination IP packets.).

As per Claim 18, Babbitt discloses **the method of claim 17, wherein the public information comprises a public address** (Col. 3, lines 23-29. Responsive the determining parameters of availability and expiration of time, a public IP address is assigned.).

As per Claim 21, Babbitt discloses **the method of claim 17, further comprising the step of performing the outbound access to the public network, wherein the outbound access uses one or more of the following protocols: file transfer protocol (FTP) request for comment (RFC) 959; H.323 international telecommunications union (ITU) standard; session initiation protocol (SIP) RFC 2543; resource reservation protocol (RSIP) RFC 2205; internet protocol**

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encapsulation security protocol (IPsec- ESP) RFC 2402; kerberos 4; kerberos 5; telnet RFC 854; and rlogin RFC 1282 (Col. 5, lines 30-31. Subscriber may want to access using FTP.).

As per Claim 22, Babbitt discloses **the method of claim 17, wherein an application performs the steps of determining, requesting, receiving, and placing, and wherein the application is one or more of the following: a peer-to-peer application; an application requiring retention of address mapping; a remote shell (RSH) application; an X window system application; and an X-term application** (Col. 8, lines 51-59. As an example, during a web browsing session, an IP address is required to held during the entire session of seven minutes. This is in relation to mapping a public IP address to a private IP address.).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babbitt as applied to claim 1 above, and further in view of US Patent Publication 2006/0168445 A1 by Pitsos (hereinafter "Pitsos").

As per Claim 4, Babbitt is silent on **the method of claim 1, wherein the public address is an address corresponding to a remote host on the public network.**

However, Pitsos discloses a method and gateway that allows for a device in a public network to communicate with a device in a private network (Title), wherein data is stored relating to public addresses (Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Babbitt to include a remote device within the public network to communicate with a private network node as taught by Pitsos to reduce the number of global IP addresses by using a gateway and public key information that relates to an internal devices in an internal network.

7. Claims 9, 10, 14, 15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babbitt as applied to claims 1 and 17 above, and further in view of US Patent 7,286,537 B2 by Roh (hereinafter "Roh").

As per Claim 9, Babbitt is silent on **the method of claim 1, wherein:**
the step of determining a public address further comprises the step of
determining a public port;
the step of mapping further comprises the step of mapping the public port to the
local host;
and the step of returning the public address further comprises the step of
returning the public port to the local host.

However, Roh discloses, in regards to determining and mapping, a NAT is used to translate a private IP address and port number to a public IP address (Col. Lines 15-22). Hardware address port translation (HAPT) conducted between a cable modem (public) and a host (private) is done through the use of frames (packets) wherein the frames contain IP addresses and port numbers that are modified from public to private. In the embodiment mentioned in the reference, the private address is returned to the host (Col. 16, lines 50-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Babbitt to modifying port numbers corresponding to public addresses as taught by Roh to correctly transmit a frame (packet) to a requesting host in a private network (Col. 15, lines 41-44).

As per Claim 10, Babbitt is silent on **the method of claim 1, wherein:**
the step of requesting an access to a public network further comprises the step
of requesting a port to be used during the access;

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the step of mapping further comprises the step of mapping the requested port to the local host;

and the step of returning the public address further comprises the step of returning the requested port to the local host.

However, Roh discloses when a host transmits an address resolution protocol request, the hardware address port translation modifies the port number to correspond to a public port (Col. 10, lines 49-54; Col. 10, lines 63-67 and Col. 11, line 1). Hardware address port translation (HAPT) conducted between a cable modem (public) and a host (private) is done through the use of frames (packets) wherein the frames contain IP addresses and port numbers that are modified from public to private. In the embodiment mentioned in the reference, the private address is returned to the host (Col. 16, lines 50-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Babbitt to modifying port numbers corresponding to public addresses as taught by Roh to correctly transmit a frame (packet) to a requesting host in a private network (Col. 15, lines 41-44).

As per Claim 14, Babbitt discloses **the method of claim 1, wherein:**
the access is from the local host to the public network (Col. 3, lines 16-19. A request may also be made to access a private network from a public network.);
and the method further comprises the steps of:
modifying the local address to be the public address (Col. 11, lines 6-8. The

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gateway replaces the internal source IP address in the packet with the assigned external IP address.).

Babbitt is silent on **the access comprises the local address and a local port, and modifying, if necessary, the local port to be a public port corresponding to a public host.**

However, Roh discloses hosts' sources addresses and port numbers are modified and forwarded to a service provider to access the Internet (Col. 2, lines 54-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Babbitt to modifying port numbers corresponding to public addresses as taught by Roh to correctly transmit a frame (packet) to a requesting host in a private network (Col. 15, lines 41-44).

As per Claim 15, Babbitt discloses **the method of claim 1, wherein: the access is from the public network to the local host** (Col. 3, lines 14-18. Assignment of an external IP address is in response to a subscriber of a private network wanting access to a public network.).

Babbitt is silent on **the access comprises a second public address and a public port; and the method further comprises the steps of: modifying the second public address to be the local address; and modifying, if necessary, the public port to be a local port corresponding to the local host.**

However, Roh discloses requesting a second IP address (Col. 3, lines 8-10), allocating the public IP address to the host requesting the second IP address (Col. 3, lines 11-12), and modifies the destination addresses and ports received from the service provider (public entity) that correspond to the host (local; Col. 2, lines 61-63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Babbitt to modifying port numbers corresponding to public addresses as taught by Roh to correctly transmit a frame (packet) to a requesting host in a private network (Col. 15, lines 41-44).

As per Claim 19, Babbitt is silent on **wherein the public information comprises a public port.**

However, Roh discloses that public port numbers are in direct correlation to public IP addresses as the modified port numbers and addresses are stored in a hardware address port translation table (Col. 10, lines 63-67 and Col. 11, line 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Babbitt to modifying port numbers corresponding to public addresses as taught by Roh to correctly transmit a frame (packet) to a requesting host in a private network (Col. 15, lines 41-44).

8. Claims 5 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babbitt as applied to claims 1 and 17 above, and further in view of US patent 7,139,841 B1 by Somasundaram et al (hereinafter "Somasundaram").

As per Claim 5, Babbitt is silent **on the method of claim 1, further comprising the steps of:**
creating a packet having one or more headers and one or more payload areas, the packet to be used in the access;
and placing at least the public address in a given one of the one or more payload areas.

However, Somasundaram discloses a method and apparatus that allows for network address translation of embedded addresses and ports in data packets (Abstract). The information pertaining to addresses and port numbers may be included in the payload area of the packet (Col. 1, lines 45-46). In Table 1, Col. 7, the payload addresses and payload ports are created in the packet.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Babbitt to include placing address and port information into the payload area of a packet as taught by Somasundaram to properly translate addresses and ports to support file transport protocol (FTP; Col. 1, lines 48-50).

As per Claim 20, Babbitt is silent on **the method of claim 17, wherein the step of requesting an access to the public network further comprises the step of requesting a local port, and wherein the step of placing the public information in a payload further comprises the step of placing the requested local port in the payload.**

However, Somasundaram discloses NAT translation of addresses and ports, if needed, is done upon request of an end-host (local; Col. 2, lines 17-24).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Babbitt to include placing address and port information into the payload area of a packet as taught by Somasundaram to properly translate addresses and ports to support file transport protocol (FTP; Col. 1, lines 48-50).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babbitt and Somasundaram as applied to claim 5 above, and further in view of US patent Publication 2004/0105542 A1 by Takese (hereinafter "Takese").

As per Claim 6, Babbitt and Somasundaram are silent on **the method of claim 5, wherein one or more of the following are encrypted: the one or more headers and the one or more payload areas.**

However, Takese discloses an encryption/decryption unit encrypts both an IP address header and a payload ([0100]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Babbitt and Somasundaram to include encryption of packets as taught by Takese to enable confidentiality in communications ([0007]).

Conclusion

10. Prior art made of record not relied upon:

US Patent 6,944,167 B1 by McPherson discloses a method and apparatus for dynamic address allocation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN ELLIOTT whose telephone number is (571)270-7163. The examiner can normally be reached on Monday thru Thursday, 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taghi Arani can be reached on 1-571-272-3787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/B. E./

Examiner, Art Unit 4144

/Taghi T. Arani/

Supervisory Patent Examiner, Art Unit 4144

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